2016 BIG R
ReMaTecUSA SHOW
Las Vegas, Nevada
October 29-30, 2016
Paris Las Vegas Hotel

Speakers ...... 20–23
Exhibitors ..... 24–29
Register Now ...... 31
It’s Show Time!

Hopefully you are reading this while sitting at the office or sitting on the plane on your way to the BigR/RematecUSA Show at the Paris Hotel in Las Vegas. I am really excited this year as we have a big headliner with Bogi Lateiner from the All Girls Garage that is seen on the Velocity Channel.

Just the mere fact that Bogi is coming to a Remanufacturing Show tells how the world is finally starting to recognize the quality and the benefits (especially environmental) that remanufacturing brings to repair shops and DIY’s all over the world. I also hope everyone saw the press release from RIC and the collaboration between APRA and RIC on the Remanufacturing Industry Awards also referred to as ACE for Advocate – Collaborate – Educate. APRA is really excited about this initiative because again it’s another sign of the Remanufacturing Industry moving forward, being recognized, and being supported across associations and businesses.

So in light of this, I certainly hope you are taking advantage of the networking and technical seminars at the BigR/RematecUSA Show in order to stay on top of this, now, fast moving industry.

It’s vitally important for shops of all sizes to stay on top of the technical challenges of today. There are so many products moving to a Mechatronic phase or right out electrical/electronic phase that it changes rapidly. So be smart and get to the show and other forth coming shows and stay ahead of the game.

I look forward to seeing all of you at the show!

I always welcome response or rebuttal to my comments at kripli@apra.org

Respectfully,

Joe Kripli
Used Equipment Available (Straucon)


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APRA Celebrating 75 Years of Serving the Remanufacturing Industry

For more info and photos, visit www.apra.org/75years
D & V Electronics Ltd. announces new Executive Director, Kalina Loukanov

D & V Electronics Ltd. announced Kalina Loukanov as the new Executive Director of D & V Electronics Ltd. Mrs. Loukanov has had a very active role in the Executive Management Team over the past 9 years as Information Technology and Strategic Planning Manager, and is looking forward to building on the company’s excellent Testing Systems foundation.

For more details, please contact D & V at info@dvelectronics.com.

Right to Repair - Fighting for the ‘Right to Repair’ Devices

Advocates of the right to repair movement believe repairing personal property is a basic property right and is necessary to create a healthy sustainable market. Many efforts by manufacturers to block repairs, they maintain, are intended to force consumers to buy new products or expensive warranties — not protect their intellectual property.

The Repair Association helped introduce right-to-repair legislation in four states — Massachusetts, Minnesota, Nebraska and New York. None of the measures passed, but the Repair Association and other advocates expect them to be reintroduced this year.

To learn more, visit http://www.righttorepair.org/main/default.aspx.

SRC Holdings in the Former Regal Beloit Building

Nine months after SRC Holdings purchased Springfield’s former Regal Beloit facility in Springfield, MO, all 325,000 square feet of office and manufacturing space in use. The facility was originally expected to handle needs for three to five years, but the facility filled up quickly due to growth in SRC’s business, and the decision to move out of another property. Vice President Dick Moger said, “In our opinion, it’s nice to see manufacturing jobs back in the center of town.” The U.S. Bureau of Labor Statistics estimates that the manufacturing sector employs about 14,600 people in the five-county Springfield area.

Industry Veteran Ray Ingraham joins GB Remanufacturing, Inc.

GB Remanufacturing, Inc. has announced the appointment of Ray Ingraham as its Central Regional Sales Manager. Ray brings numerous years of experience in the automotive aftermarket. He has held a variety of management positions in both the distribution and vendor segments of the business. “We are pleased to have Ray join the GB family,” said Russ Barker, Director of Sales and Marketing for GB. “Ray has a long history of working with his customers to grow their business. He has a common sense approach that will be beneficial as we continue to work with our distributors to grow the very successful GB gasoline and diesel fuel injection program.”

For more information, visit www.gbreman.com.

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REMADE Institute

For the first time in history, the U.S. government has committed a significant amount of money to advancing remanufacturing. The “REMADE Institute” will serve U.S. remanufacturers by investing in next-generation technologies that will enable your company to produce products more efficiently and at a lower cost. The Institute will focus on scaling up and de-risking beyond state-of-the-art solutions to many common reman challenges, including advance cleaning, restoration and condition assessment.

Learn more at http://www.rit.edu/gis/remade.

Remembering Bill Moffatt, 1984 APRA Chairman

William Andrew “Bill” Passed away on Friday March 18, 2016 at the General & Marine Hospital, Collingwood in his 77th year. He was the president of Cantire Products, a division of Canadian Tire, and a great contributor to the remanufacturing industry. In 1984, and he was served as the Chairman of Automotive Parts Rebuilders Association (APRA) and was the first Canadian APRA Chairman.

Remanufacturing Associations Agree on International Industry Definition

Six leading associations in the remanufacturing industry, including APRA, announced a common understanding of basic definitions associated with their industry. The move is a tremendous step forward in the industry’s quest to raise awareness and acceptance of remanufactured products.

The European Association of Automotive Suppliers (CLEPA), Motor & Equipment Remanufacturers Association (MERA), Automotive Parts Remanufacturers Association (APRA), Automotive Parts Remanufacturers National Association (ANRAP), European Organization for the Engine Remanufacture (FIRM) and Remanufacture Committee of China Association of Automobile Manufactures (CPRA), worked together to define “Remanufacturing Process”, “Core”, and “Remanufactured Part”.

“As we are in a Global Economy with Global Product platforms, the best way to protect our raw materials, environment and to keep quality product affordable for consumers as well as being a service solution, is through Remanufacturing. These definitions clearly lead us into that direction,” declared Joe Kripli President of APRA.

To learn more, visit apra.org/news.

Remanufacturing Industries Council (RIC) Announces the Launch of the 1st Annual Remanufacturing ACE Award

The Remanufacturing Industries Council (RIC), an association representing all remanufacturing industry sectors, announced the launch of the 1st Annual RIC Remanufacturing ACE Award. The ACE Award is bringing together partners, leaders, and nominees from the entire remanufacturing industry, and the award is based on RIC’s mission to advocate, collaborate, and educate on behalf of the remanufacturing industry.

APRA is the first remanufacturing sector association to collaborate with RIC in promoting the award. The launch for the ACE Award will take place Saturday, October 29, 2016 in at the 2016 Big R/ReMaTecUSA Show in Las Vegas

To learn more, visit apra.org/news.
APRA recently developed and launched the new APRA MembershipValue discount program exclusively for members.

This industry-leading member program provides savings to members on products and services they use everyday in their business, from office to workshop supplies, financial and human resource assistance, shipping and gas, and much more.

This improved program replaces the earlier program called “Reman Toolbox”.

According to APRA’s Casey Parker, “What makes the APRA MembershipValue Program incredible is that we have combined the best savings offerings from a variety of service providers. For the average APRA member that uses this program, they can save thousands of dollars which more than covers the cost of their membership dues.”

APRA has created a unique partnership with Polaris Systems, Inc., savings4members and MeridianOne to offer the widest variety of discount programs available—and they are only available to APRA members.

If your company provides products or services to the remanufacturing industry and would like to partner with APRA to promote your business, contact Casey Parker at casey@apra.org or 703-968-2772. APRA will actively promote your business if you are able to offer an exclusive discount to association members.

To learn more about the program, visit www.apra.org/membershipvalue. For more information, call the office at (703) 968-2772.
A REMAN CONNECTION | ISSUE 10

Digital Add-On to the Analog Gages, Inverter Installation, My Battery is Good...!"

by Mohammad Samii

APRA’s tradition of providing training during the BIG R Show each year is again scheduled to take place during the 2016 Big-R/ReMaTec USA show in Las Vegas on Saturday October 29th. The details of the training session (also called APRA’s Conference Session) are available on the APRA website (www.apra.org) and in the Reman Connection magazine.

This year’s training for the Electrical Division is in 3 parts. They are as follows:

Update on Newer Charging/Starting Systems by: Mohammad Samii
AGM Batteries and Their Application by: Bob Jeffries
Advanced Test Methods for Starters and Alternators by: Phillip Falk

The speakers have a long history of expertise and experience with their subject matters, and they will be sharing their knowledge with the attendees. They are striving to make this an informative training session, worthy of the time and expense, and to bring the most recent information to the association’s membership. Events like this are good occasions to: update your knowledge, see the new industry trends, exchange ideas with your peers (who are in the same proverbial boat as you) and see how they are making it. I believe that is what networking is all about. It’s how we can learn from others. That is what I look forward to at these events.

A Digital add-on to the Analog Gages

Since the analog gauges on the older test benches have been in use for many years, some may have erratic problems of inaccuracy in reading. So an upgrade or an add-on of some sort may be helpful to give a better indication and a more precise reading.

I came across this inexpensive digital voltmeter, and my very crafty technician, Bob C., managed to make a frame for it out of a discarded mini-relay box. We installed it above the voltmeter of our Crumbliss 2450 test bench and wired it into the system. It has given a newer look to that old trusty test bench and has made the reading a little easier. I am sure that better meters can be devised to upgrade the old system, but so far, we have had very satisfactory results with our $2 digital meter from eBay! (Figure-1)

Inverter installation

A couple of months ago, I wrote about a 2014 Chevrolet Silverado truck belonging to a utility company, in which a shorted inverter had blown a fuse strip with non-replaceable fuses. Well, they finally authorized the installation of a new inverter.

There are industry suppliers who carry inverters. But we found an internet company called Inverters R Us (www.invertersrus.com) to have a good selection with reasonable prices and prompt service. An Aims Power model 300012120W was obtained and installed. Since the connecting wires were on the truck already, the installation was simple. We took the additional step of installing a resettable circuit breaker with a 100-amp rating (J&N’s C185-100) to protect the vehicle junction block and non-replaceable fuses. (Figure-2)

I am not sure why they were demanding such a high power...
inverter—when all they use it for are a laptop and a few chargers for their power tools. The inverter we installed was a modified sine-wave type which sufficed for this application. If they had needed it to drive audio and more sensitive devices, a pure sine-wave type would have been necessary, in order to eliminate the hum in the speakers. That type is a lot more expensive.

It has been over two months since the vehicle has been put back into service, and they seem to be very happy with the way everything works. We did caution them never to run the inverter with the vehicle off, or to jump start the vehicle with the inverter on. It seems they have been listening to our advice so far.

My Battery is Good…!

Customers’ calls related to a no-start or hard-start, force me to ask them first about the condition of their battery. My question is usually answered by the caller saying that their battery is fine, new, or near new, or it had just been charged up. Not accepting their answer, I say that I need to know the measured voltage across the battery posts! This is usually followed by silence, the muttering of some unintelligible words, or... “I got 12 volts…” to which I answer that a 12-volt reading means that the battery is dead!

We know that in a stabilized and charged battery, the open-cell voltage (OCV) is a good indication of the state of the battery’s charge. The chart below (Figure-3) shows the relationship between the open-cell voltage and the state-of-charge (SOC) of the battery. This is a very useful chart to relay to a customer that a reading of 12 volts means a nearly dead battery (if his measurements were taken accurately—or if they were taken at all!)

The next issue is the cranking power of the battery. Not all charged-up batteries are able to crank and start a motor if they: have defective cells, are sulphated, or are just too old and worn out.

When the caller says he had his battery tested, my next question is, “What were the results of the test?” This is to know how big of a load they used and what the battery’s voltage under that load was. At this point, the conversation usually comes to a close. They can rarely tell you the results of the test, the load, and the voltage under load. Once they try to throw in unrealistic numbers that do not fit any defined parameters, you know that their claim of testing is bogus, and the caller really has no idea about the condition of the battery. He may just be complaining about a starter or an alternator he had bought a while ago—or perhaps he is trying to relate the current starting problem to a previous purchase.

Since we are in a smaller community and are close to our customers, I always ask them if they could bring in their battery for us to test. In some cases, the vehicle needs to be towed in for the battery test or a charging/starting test. Simply taking a caller’s inquiry on its face value and giving a professional opinion without having seen or inspected the vehicle, is, well, very unprofessional!

Well, that’s it for this issue. I am looking forward to seeing many of my friends and colleagues at the Big-R/ReMaTec-USA show at the end of the October. Until then, keep up the good work.
New Demands on Reman Industry

The 2016 APRA Birmingham event was a big success, both for the industry and for the APRA European division. The countless discussions among participants during and after the event demonstrated interest in political issues and future technical and economic requirements of the industry.

These are the same issues the Board of the European APRA division discussed in several meetings during the Birmingham event. The Chairman of the APRA headquarters, Mr. Omar Cueto, who travelled to this event, also engaged in these discussions. The discussions focused on the status of the European remanufacturing industry and future challenges to market participants and the association. These discussions are testimony to the fact that the entire reman industry and the association are in a transitional phase.

Changes in the APRA European Board

Peter Bartel was the chairman of APRA Europe for more than 4 years. He has transformed the association to be widely recognized, and he was an important partner of the major automobile associations through countless successful projects on the European political scene. Due to increased management responsibilities within his company, Bartel no longer has the necessary time to dedicate to the APRA European Board and will vacate the Chairman position. However, he will continue to work actively as a member in current projects. A new Chairman and Vice Chairmen was voted in by the APRA European Board to set the course for the coming change and future requirements.

Reman Industry in a Transitional Phase - Focus on SME-Members

Changing market structures and political influence both affect the remanufacturing industry in Europe. The European remanufacturing market, which consists of participants of the OE (original equipment manufacturers), Tier1 (rank 1 in the delivery chain of suppliers of the automobile industry), and the independent remanufacturers, is changing. On the one hand, corporate successors, acquisitions, mergers, and investments are changing the ‘face’ of the industry, and with it, the member structure of the APRA. On the other hand, technology developments will define a new qualification profile of employees in remanufacturing and will demand increasing and short-termed investments. This can be seen as an opportunity as well as a potential threat. The market participants who can meet these requirements and implement appropriate solutions can substantially increase their market share, not only in the automotive business, but also in the off-highway and capital goods sector. On the political decision-making level, the topic ‘Circular Economy’ is being promoted, specifications are being drawn up, and improvements/legislative initiatives are being submitted.

As the APRA event in Birmingham showed quite plainly, our association must actively be engaged in political lobbying. The main objective is not only to specify the political orientation, but also to prevent incorrect decisions of policy with drastic and disastrous effects on the international remanufacturing business. At the same time, all European Board members agreed that the top priority must be the interest of the SME-members, because these member companies (which are mainly managed by their owners)
represent the broad base of the APRA and are the backbone of the entire industry. The needs and expectations of SMEs have been neglected in the past and will see much more consideration in the future.

New Goals for APRA Europe

These driving forces and changes were the catalyst for deep, strategic discussions within the European Board meetings in Birmingham, and the Board decided to define the goals for APRA Europe in the next 12 - 18 months:

The critical success factors to reach this goal have to be identified

The strategic basis for the alignment of APRA Europe Division on the future political, technological and economic challenges must be developed

A detailed implementation plan must be put together

To achieve this, the APRA Europe Board elected the Chairman and the Vice Chairman and promised their full support in successfully achieving this task.

Support of all Reman Companies is Requested

On a personal note:
The tasks, which are associated with these decisions, mean enormous temporal challenges for the APRA Board. All board members work voluntarily for the association, secondary to the responsibilities for their own businesses. The Board requires the active support of all association members, including involvement in press activities, attracting new members, participating in APRA events, transmission of market and technology information, and participation in projects. With the necessary restructuring of the APRA, many changes will be connected: Organizational, structural, financial, and capacitive/time requirements.

One thing is certain: Together, APRA Europe has an excellent chance to establish itself as THE European remanufacturing association, ensuring continued positive development of the remanufacturing industry in Europe. ■
In late May of 1937 a physician in South Royalton, Vermont purchased a stylish new 1937 LaSalle Sport Coupe. The car he selected was the lowest priced LaSalle which was advertised with a base price of $995 and was one of 5,801 similar models manufactured.

General Motors created LaSalle as a “companion” car to Cadillac to fill a price gap that existed between Cadillac and Buick. The life of the LaSalle brand lasted 14 model years, from 1927 to 1940.

LaSalle offered ten colors in 1937 including:
- Admiral Blue
- Ricardo Maroon
- Douglas Green
- Peruvian Gray
- Briarcl Blue
- Springdale Green Metallic
- Golden Beige Metallic
- Rockledge Gray
- Santaupe Metallic

This LaSalle left the factory wearing a somber coat of black. Today the paint is somewhat faded and weather worn but remains serviceable.

Through the years of World War II the LaSalle served its original owner well. The gasoline ration stamp which was required to buy gasoline at that time, remains affixed to the back of the rear view mirror.

Eventually the car was taken out of service and sold until Randy Denchfield found it – almost in his own backyard.

Denchfield has long admired the graceful styling of all LaSalles. A neighbor told him about the “old car” nearby and Denchfield went to investigate.

The LaSalle was exactly the type of vehicle that appeals to Denchfield, an unrestored, mostly original condition sport coupe with the upholstery
that was installed at the factory almost eight decades ago. Even the rubber on the “floating” running boards is original although showing signs of wear.

Of the 32,005 LaSalles manufactured in that model year only 5,801 were sport coupes. This LaSalle was not for sale but a persistent and persuasive Denchfield convinced the owner that the car would be in good hands.

An agreement was worked out and the transaction took place in 2012. Other than a brake system master cylinder that was replaced in the summer of 2014 the LaSalle has been relatively trouble free. “I love it,” Denchfield says, “It’s a fun car to drive.”

During the 14 years that LaSalles were made 1937 was the most productive year. It was also the last year with a floor shift to control the three speed manual transmission.

“The floor shift is a real pleasure,” Denchfield says. Behind the front seat are a pair of opera seats that fold down from the sides of the car to boost passenger capacity.

Behind the tall, slender LaSalle grille is the powerful 322-cubic-inch L-head V-8 engine crowned with a two-float carburetor that was designed to prevent fuel starvation in sharp turns.

The engine develops 125 horsepower and is identical to the engine in the LaSalle convertible that was chosen as the pace car for the 1937 Indianapolis 500 mile motor race. The speedometer can register speeds up to 110 miles per hour.

Riding on 7.00x16-inch tires supporting a 124-inch wheelbase on a fully independent suspension, the LaSalle has a turning radius of 20 feet.

The engine develops 125 horsepower and is identical to the engine in the LaSalle convertible that was chosen as the pace car for the 1937 Indianapolis 500 mile motor race. The speedometer can register speeds up to 110 miles per hour.

Riding on 7.00x16-inch tires supporting a 124-inch wheelbase on a fully independent suspension, the LaSalle has a turning radius of 20 feet.
A few months ago I wrote an article about Diesel tuners in reference to keeping the software updated and some of the issues that can arise if they aren’t. This go around I will touch on something similar but different at the same time: vehicles that have third-party programming installed, but there is no tuner that you can hold onto or plug in and update. This is hardware that has the ability to pull the factory calibration from the ECM/TCM in order to be edited, and then flashed back into the ECM/TCM. HP Tuners and EFI Live are the “big two” to speak, and there are a few up-and-comers entering the market, but for the most part these are the brands that are the most widely used and can give us some headaches.

I will start out with the disclaimer that I am in no way an expert on the use of this software, but I have been involved with it and even modified a couple of TCM’s for 6L80 units. I figured that I could touch on a few things I have encountered and maybe save someone a comeback or even know when to avoid a job if you are not comfortable with it. While there are shops out there that feel confident in tuning vehicles and have the appropriate expertise, there are just as many that THINK they know what they are doing but really don’t. These are the tunes that will wreak havoc in our lives. This software is very powerful. Whether it is HP Tuners or EFI Live, they both accomplish the same thing; it’s just the user interface that differs in appearance. Just to keep it on the simple side, all of the screenshots referenced in this article will be from HP Tuners software.

So, how do you know if a vehicle’s computer has been modified with this software? Good question. The people who program the software are very smart, and this is true also with the handheld tuners. Most will not change the calibration number when you look at it with your scan tool, so this is where the website https://tis2web.service.gm.com/tis2web for GM comes into play. I know
that everyone who goes to the yearly technical seminars from ATSG or others has heard of or seen this website. Comparing the CVN number from the website to the one shown on the scan tool is the only way I know to confirm that tuning has taken place, beyond asking the customer. If you suspect programming and the owner does not want to admit to it or genuinely does not know, what I have found is that if you tell them that you will be reprogramming the ECM/TCM with the factory software and the vehicle is tuned, it will wipe out the aftermarket tuning. At this point they will either spill the beans or walk away. Programming isn’t cheap.

The 6L80/90 series units seem to be the most popular GM applications that we see, and the focus of this article. There are so many different parameters in this software that it will be impossible to show you all of them, so I will do my best to show you some examples and you can fill in the blanks from there (Figure 1). In this image I have highlighted on the Auto Shift Speed tab and all of the “buttons” that you see will bring up a table: “Normal” is the 1-2, 2-3 & 3-4 shift tables which will also include the downshifts of the same gears, the 5th & 6th will be the corresponding 4-5 & 5-4 or 5-6 & 6-5 (Figure 2). In tables 3-4, Full Throttle Shift Speed for Normal, 5th & 6th and you can see that the 2-3 shift at WOT is commanded to happen at 56 mph. For an example of how a shift is disabled, look at the 5-6 table as it is commanded to happen at 311 mph. Since it will never see that mph, the 5-6 will not happen at WOT in a stock calibration. However, this can be changed in the software to whatever speed you want above the 4-5 command.
Now we can move onto Shift
time, shown in the next image. This
is the transition time from one ratio
to another measured in seconds and
uses the Turbine speed sensor for
reference. As you can see, there are
multiple different tables that can be
accessed. Some are base tables and
others are modifiers, meaning that
one table can either modify, or even
replace, a base table if certain pa-
rameters are met (Figure 3).

In the next image (Figure 4) we
will look at the Shift Time Torque
Adder Upshift-Normal table, this
is a “RPM over Torque” table. This
will have a direct affect on shift
feel, and the lower the number, the
quicker or firmer the shift is. So in
this example, at 6,250 rpm and 295
lb.-ft. of torque input the com-
manded shift time is 0.3994 sec-
onds. This table can be modified in
several different ways. You could
change the entire table by a certain
percentage or a set amount of time,
or even just change individual
blocks to whatever you would
want. One thing here that can rea-
ly mess with the transmission is
the torque table or “load factoring”
that is generated on the engine side
of things. If the load factor is not
correct it will have an adverse af-
fect on any table that uses a torque
input for calculations, very similar

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<td>80.8</td>
</tr>
</tbody>
</table>
to a skewed MAF sensor. The shift time in these tables (the calculated total shift time that the computer wants to see) is where the shift adapts come into play. If the actual time is greater than what is commanded, the TCM will try to shorten the shift time for that load point. Although the 6 speeds work a little differently, you still can compare this to “Tap Cells” that everyone has seen on the 4L60E or 4T65-E.

In Figure 5 we see the Shift Pressure tab, and boy, what we could go into here. As defined:

- Maximum Pressure is the maximum desired line pressure allowed. It is a cap for any shift table value and has the final say on the line pressure offset before it is used on the Force Motor Current table.
- Maximum Pressure B: Line pressure maximum value, in some cases this value may be calibrated as actual line pressure after the regulator gain has been applied.
- Maximum Clutch Pressure: In some cases this value may be calibrated as actual line pressure after the regulator gain has been applied.

In Figure 6 the Max Line Pressure table is shown, and in Figure 7, Base Shift Pressure 1-2 Pattern X: The base line pressure (main line feed pressure solenoid) during a shift:

The next image is the TCC Tab that has control over the TCC Pressure, Slip Speed, Adapts and Apply and release speeds (Figure 8).

I am not going to go into much detail about the TCC Tab because we need to move onto another section that I believe has more of a negative impact on a transmission lifespan, and thus more important to know.

Figure 9 shows the Torque Management tab.

Almost all late model electronically-controlled transmissions have Torque Management built into the software. TM comes into play during the shift transition, as even at stock power levels, the OE limits the torque input to the transmission during shifts. The “Shift Torque Factor” where it shows 1.0 is 100% TM, and that’s what it is set at from GM. This can be changed to anything lower, and in this example I changed the 2.3 to 0.500, which is
50% TM. If you look at Torque Reduction where it shows Enable/Disable, this is where you could completely eliminate TM on any of the parameters listed. Doing so is a critical mistake and has the ability to destroy a transmission, especially on a modified vehicle. It is not uncommon to see a Camaro or Corvette that is either turbocharged or supercharged that has 700-1,200 HP at the rear wheels, and while it is possible to make a transmission survive in these vehicles, extreme attention to detail has to be used while building the transmission in addition to and modifications to the vehicles computer programming.

Chris Adams started with Certified Transmission in 1986 as an R & R technician and currently works as our diagnostic trainer. His current duties involve training and advising our retail technicians, as well as assisting in the research and development of our remanufactured products. He is also holds ASE Master and L1 certifications.

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The 2017 Heavy Duty Remanufacturing Group Summit will be held January 23, 2017 at The Mirage in Las Vegas, Nevada.

The Heavy Duty Remanufacturing Group (HDRG) is a division of APRA. Any member of APRA who is involved with heavy duty remanufacturing is a member of HDRG at no additional cost.

The HDRG Summit registration is only $199 for members and $249 for non-members. This includes speaker sessions, meeting materials, coffee breaks, lunch and a light reception.

An additional highlight of the HDRG Summit is APRA’s annual “Heavy Duty Remanufacturer of the Year” Awards Luncheon. This award will be presented to a remanufacturer who has demonstrated leadership and vision in the industry. Companies interested in being nominated for the award should contact HDRG/APRA by emailing sparker@apra.org or calling 703-968-2772.

Additional registration and hotel information will be distributed in the near future.

HDRG/APRA Members Save $280 Off HDAW Registration

The HDRG Summit is held immediately before Heavy Duty Aftermarket Week 17 (HDAW), which will be held January 23-26, 2017 at the same hotel.

Over 2,500 attendees will be attending HDAW with 100,000 square feet of exhibitor space.

If you are member of HDRG/APRA, you may register for HDAW at the member rate of just $595. The non-member rate is $875. For more information, visit www.hdaw.org.
APRA’s Keynote Speaker will be Bogi Lateiner, a master mechanic and a star of All Girls Garage on the Velocity Channel.

In today’s marketplace, it is critical to understand what is driving the purchase decisions of the ultimate end-user of the parts you are remanufacturing. Reman products not only have to compete with OE product offerings, they also compete with certain perceptions (even if they are false) of reman products. Bogi will explore the perceptions, what the end user is demanding of replacement parts and how to uniquely position your company to maximize sales and profits.

Specifically, Bogi will answer the following questions for attendees at the 2016 BigR/ReMaTecUSA event:

- Who is your customer and what are they looking for in a replacement product?
- What are the challenges facing the reman industry?
- What is the perception of reman parts and how to overcome it?
- How to differentiate your company from the sea of competition?
- How can we all work together to overcome obstacles facing the automotive industry as a whole to build a stronger future?

**Bogi Lateiner Biography**

Bogi is a master mechanic and owner of the award winning auto repair shop, 180 Degrees Automotive in Phoenix, Arizona. A writer, a speaker, teacher, and recognized industry spokesperson, Bogi is passionate about improving the reputation of the automotive industry and changing the way women, in particular, feel about cars and the automotive repair experience. Bogi teaches automotive basics to women around the country, consults and teaches classes to repair shop owners and other small business owners, and appears as one of three female mechanics on All Girls Garage on Velocity Channel.
The remanufacturing industry is facing a period of change driven by a number of disruptive forces. Mike will review the automotive industry in the context of new and emerging technologies and the remanufacturing implications. The presentation will focus on the risks and opportunities that will present themselves in the short, medium and long term. “As we move into the next decade the forces that shape our future will be very different to those that brought us to this point.”

Mike Rayne Biography
Mike Rayne has over 35 years’ experience in the Automotive industry serving in global executive roles for Delphi and TRW. Most recently Mike held the role of Global Vice President for Delphi DPSS where his responsibilities included remanufacturing. Mike is currently a Managing Director with FTI Consulting advising Tier 1 corporations and private equity companies, his expertise includes business and operational strategy implementation. Mike is a Chartered engineer and a Fellow of the Society of Operations Engineers.
Newer Charging/Starting Systems
Mohammad Sammi, Sammy’s Auto Electric Service, Inc.
Mohammad Sammi will update on newer charging/starting systems that includes Chrysler, Honda, Toyota and various LIN alternators that are being more common each day. Also a brief introduction into vehicle communication system and data-bus operation that is the basis of today’s modern computer’ controlled charging systems will be explained.

AGM Batteries: The Good, The Bad and The Ugly.
Bob Jeffries, Delco Remy, a BorgWarner Company
Absorbed Glass Matt batteries are here to stay and they may look like most other batteries, but that’s where the similarities end. How they are charged, tested and applied differs greatly from traditional maintenance free batteries. The discussion will be around what AGM batteries are, the advantages of the technology, the disadvantages of the technology, and the discussion to have with your customers to avoid miss application of the batteries.

Advanced Test Methods for Starters & Alternators and their Components
Phillip Falk, StrAuCon International LLC
Dynamic Test Methods can improve warranty testing in the corporate remanufacturing environment or testing in the small workshop environment to give more information about the condition of alternator components prior to disassembly. An Oscilloscope can be a valuable tool that can quickly provide an indication of which components are faulty. Is the regulator functional, are the diodes OK, is the rotor producing magnetism? All of these things and more can be tested before the unit is disassembled.

A brush is a brush is a brush? Starter & Alternator brush technology, is there a difference between OE and Aftermarket grades of brushes? How does surface finish of the commutator or slip ring affect “break in” brush seating and how it affects performance and durability?

Hybrid Parts are Inter-Connected to Everything
Plugin Cars are Connected to the Power Grid
The Connected Future Cars
Craig Van Batenburg, ACDC
The Prius, for example, has a braking system that charges the high voltage battery, while the battery pack runs the air conditioner that in turns cools the battery pack. The Inverter tells the transmission what to do and the eCVT then connects or disconnects the crankshaft of the internal combustion engine to the wheels. Everything is connected to everything. How does this effect your job? Come learn more about hybrid cars.

ACDC will bring you into the world of Tesla and other electric car companies and what their plans are for fixing a worn out Electric Vehicle. We will discuss the new equipment needed along with batteries and electric motors. Craig will explain in some detail the issues when dealing with battery pack failures. This topic has been ACDC’s hottest subject recently. And again, everything is connected to everything.

Craig Van Batenburg will do his best to predict the future so you can make plans to be ready when the market needs remanufactured parts. The future will be Electric Cars, some with gas engines and some without. The times they are a changin’. Invest in your future and take this 3 part series.

Additive Manufacturing and 3D Printing’
Hype or the Future of Reman
Dr. Michael Haselkorn, Rochester Institute of Technology (RIT)
Additive manufacturing has been used in the remanufacturing industry for many years. 3D printing is a relatively new technology that has got a large amount of attention recently. In this session both additive manufacturing and 3D printing fundamentals will be reviewed. Then using industrial case studies it will be shown how these technologies are currently used in the remanufacturing. Finally the future growth opportunities for both additive manufacturing and 3D printing in the remanufacturing industry will be discussed.

Las Vegas, NV, October 29-30, 2016
Speakers

Big R
ReMaTeC USA
Las Vegas, NV, October 29-30, 2016
Las Vegas, NV, October 29-30, 2016

Remanufacturing Mechatronics: Strategy and Practice
Bob German, Flight Systems Automotive Group

Modern vehicles are filled with an ever-increasing array of electronics and mechatronics that include high value modules like ECMs, throttle bodies, EGR modules, ABS modules, instrument clusters, collision detection sensors, actuators, and infotainment systems. This growing service part segment can offer new remanufacturing opportunities for companies. However, the electronic nature of these parts has prevented some remanufacturers from entering this market. This APRA session will discuss the market, required capabilities, and host an open discussion on the future of this segment.

E-Commerce: Grow Your Reman Business One Click at a Time
Omar Cueto, L & J Diesel Service Inc. & Dennis Jacinto, YouTech Group LLC

Do not limit the growth of your reman business by relying on local marketing and local customers. Knowing how to profitably utilize Amazon, Alibaba and other similar sites will connect you with potential customers around the US and around the world.

Clean Up: Evolving Parts Cleaning Technology
Jack Daul, Allen Woods & Associates
Curtis Gibson, Cardinal Parts
Dr. Michael Haselkorn, Rochester Institute of Technology (RIT)

Cleaning is vital part of all remanufacturing operations. Whatever type of cleaning you currently use, understanding the latest developments in cleaning technology will help you stay ahead and profitable. This session will bring together cleaning industry leaders to help you clean up.

Turbocharger Reman: Increased Power & Profits

The first patent for a turbocharger was issued in 1905, but recently the market share for these parts has surged to 40% of all light vehicles sold in the United States. Certain attributes of turbochargers make them the perfect candidate to grow your remanufacturing business. Come learn the technical information you need to grow or start your turbocharger remanufacturing business.

Market Outlook: Understanding the Future Demand for Remanufactured Parts

As vehicle age increases and environmental legislation tightens across the globe, remanufactured products will play a critical role. These market shifts will create a strong demand for remanufactured parts, resulting in a higher growth than the overall aftermarket. These transformations will create many opportunities for various stakeholders. Attend this session to explore the key drivers and disruptive forces behind this growth. Also, an analysis of revenue growth estimates for regions and key products will be provided.

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<th>Standard Rate</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$40.00</td>
<td></td>
</tr>
</tbody>
</table>

**Payment:** Total Amount Due: $ __________

- Check (Payable to APRA in U.S. dollars)
- Charge my:  
  - [ ] American Express  
  - [ ] Visa  
  - [ ] MasterCard

Name on Card ____________________________________________ Signature ____________________________________________

Card Number ____________________________________________ Exp. Date ____________ Security Code ____________

Billing Address ____________________________________________

**Cancellation Policy:** Cancellations are subject to a 20% processing fee. No refunds will be made after 09/30/16. No refunds will be made unless written request is received by 09/30/16. Refunds take up to four weeks to process.

Submit registration to: APRA, 7250 Heritage Village Plaza, Suite 201, Gainesville, Virginia 20155  
* (703) 968-2772  
Fax: (703) 753-2445  
info@apra.org
**DORMAN**

**COMMITTED TO REBUILDERS**

**TECHMS WITH SOFTWARE TRANSFER TOOL**

- **609-000**
  - Buick 2009-08, Chevrolet 2009-08, GMC 2009-07, Pontiac 2008-07, Saturn 2010-07

- **599-120**
  - General Motors 2013-05, Isuzu 2008-06

**VARIABLE VALVE TIMING PHASERS & SOLENOIDS**

- **917-250**
  - Ford 2011-04, Lincoln 2011-05, Mercury 2010-06

- **917-200**

**OIL PANS**

- **314 SKUS AVAILABLE**

**TRANSFER CASE MOTORS**

- **600-910**
  - Cadillac 2007-03, Chevrolet 2007-03, Dodge 2010-06, GMC 2007-03

**TIMING COVERS**

- **85 SKUS AVAILABLE**

**TRANSMISSION CONTROL SOLENOIDS**

- **4 SKUS AVAILABLE**

**TECHMS AVAILABLE**

- **12 SKUS AVAILABLE**

**4 SKUS AVAILABLE**

**85 SKUS AVAILABLE**

**33 SKUS AVAILABLE**

**264-205**

- Chrysler 2013-09, Dodge 2010-09, Plymouth 2009-09

- **600-940**
  - Chrysler 2009-03, Dodge 2013-09, Jeep 2011-09, Mitsubishi 2009-09, Ram 2013-11

**33 SKUS AVAILABLE**

**33 SKUS AVAILABLE**

**85 SKUS AVAILABLE**

**157 SKUS AVAILABLE**

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